

**A RADIO ARCHITECTURE FOR USE WITH  
FREQUENCY DIVISION DUPLEXED SYSTEMS**

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**ABSTRACT OF THE DISCLOSURE**

A radio such as a frequency division duplex (FDD) radio (100) has a first local

10 oscillator (LO<sub>1I</sub> and LO<sub>1Q</sub>) that is set to coincide with the transmitter section's (126) center frequency or a sub-harmonic thereof. In this way, after the first down-conversion, the transmit interferer is converted to DC, where it can be effectively removed using a simple high-pass filter (110, 112) such as a DC blocking capacitor. Image rejection is achieved by the use of a two-step down-conversion approach that uses quadrature local  
15 oscillators to implement a single-sideband down-converter.

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